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Some Uncommon Perforated Stone Implements from the Morobe and Mt. Hagen Areas, New Guinea. By Leonhard Adam, LL.D., F.R.A.I., Department of History, University of Melbourne.

The present article is a description of some uncommon archæological specimens which aroused my interest in connection with two outstanding publications, one of a more general, the other of a highly specialized character.¹

There is as yet a noticeable lack of archæological material from New Guinea, and there are no exhaustive publications of the archæological and more recent ethnographic collections reserved in the museums of the world. Furthermore, archæological research in New Guinea seems to have been largely confined to accidental discoveries. For these reasons it seems advisable, for the time being, to record any unusual pieces which may add to our knowledge of the typology, hafting-methods, functions and distribution of implements, ancient and recent.

The implements examined in this paper belong to the category usually classified as club-heads. This term is frequently used for entirely different forms, such as globular, the so-called "pineapple" type, other bossed globular or cylindrical forms, ring-shaped, star-shaped, and discoid varieties. Dr. Hölzker (p. 687) has published a sketch map of New Guinea showing the regional distribution of all the various types. The underlying data being incomplete, this map can only be regarded as preliminary, but it is most useful and in fact indispensable for further investigation. It shows that by far the most frequent, and most widely distributed type is the discoid. To avoid terminological confusion, it may be advisable to confine the term "club" strictly to those forms which are "knobby or massy at one end" (Chambers), with the exception of hafted *blades* distinguished by one or several sharp cutting-edges. Implements with sharp cutting-edges, i.e. of the type and size here under consideration, should be described as "axes" where the cutting-edge is in a position parallel to the blow, and as "adzes" where the cutting-edge or, if hafted, the handle, is at right angles to

¹ F. D. McCarthy, "A Comparison of the Prehistory of Australia with that of Indo-China, the Malay Peninsula, and the Netherlands East Indies," *Proc. Third Congress of Prehistorians of the Far East*, Singapore, 1938, pp. 30-50, Pl. I-IX, and George Hölzker, "Einiges über Steinkeulenköpfe und Steinbeile in Neu-Guinea," *Anthropos*, Vol. XXXV-VI, Posieux-Froideville, Switzerland, 1940-41, pp. 681-736, Pl. I-II, p. 681.

the blow, regardless of its intended purpose either as a tool or as a weapon. Therefore, the discoid, hafted stone implements of New Guinea should be classified, from the technological point of view, as adzes, at least in the majority of cases.³ An exception will be shown in Fig. 7. On the other hand, the ceremonial discoid greenstone blades of New Caledonia are to be classified, according to the hafting method, as axes, as it has been done, e.g. in the "Handbook to the Ethnographical Collections, British Museum," 2nd ed., p. 123, Fig. 107.

Historically, or genetically, McCarthy's point No. 19 (*loc. cit.*, p. 47) will have to serve as a working hypothesis, namely that "the perforated discoid club-head of New Guinea, and the shell rings of New Guinea and Melanesia are related to those of Burma, India,⁴ Malay Peninsula, Indo-China and the Philippine Islands." If this is correct, it might perhaps be assumed that all the other perforated stone implements of New Guinea represent a later development, considering their more complicated forms compared with the simpler device of a plain disc. From the purely technical point of view, however, there is no reason why a ground and sharp-edged disc should be regarded as an earlier type than massive club-heads of various forms, which may be the result of an altogether different development and of independent origin. One important point concerning the antiquity of the discoid blades emerges from Dr. Höltker's map, where certain types are specially marked as "prehistoric." This means that, in certain regions, viz. the northern, and part of the central area of the Mandated Territory, the discoid as well as any other stone "club-heads" are now neither made nor used for any profane purposes. It is for this reason that Dr. Höltker classifies them as "prehistoric." In these regions, specimens occur not infrequently; they must have been imported or else left there by an earlier ("Papuan, not Melanesian") population

³ More observations are desirable of the functions of hafted discoid blades in modern times. My examination of a large number of specimens shows that most of them are battered and scratched not only on the sharp peripheral edge but also on the surfaces. We can also notice traces of sand or loamy soil in some of those scratches. It is possible that many of these pieces were used as agricultural implements, i.e., as hoes.

⁴ The classical example of a discoid weapon with central perforation, or rather a flat ring with peripheral cutting-edge, was not used as a club-head; nor was it hafted at all. This is the *cakra* of ancient India, one of the attributes of Vishnu and other deities. It was a missile, possibly the original form of the ring-shaped quoits of the modern game, and was of metal. As a missile, the ancient *cakra* has survived among the Sikhs of modern times. Here it is twirled round the forefinger and then thrown with a spinning motion. It is well known that, in Sanskrit and in Brahmanic iconography, *cakra* is also the wheel, both in its original and symbolic-religious sense, and many of the finest sculptures of Vishnu are holding, not a disc, but a wheel. If it could be established that the denotation of the wheel—not necessarily the type with spokes, but a disc with central perforation—was the original, we could regard its invention as the *dies post quem* for the introduction of the disc, perforated or plain, as a missile. This would imply a relatively late origin, in conformity with the ground surfaces of all the discoid stone implements. The *diskoi* of ancient Greece, however, had nothing to do with a wheel. It was used for physical exercise only and thus not as a weapon, and it was not always circular but sometimes oval. The size was considerable, about 1 ft. diameter. The material was stone, or metal (iron), or wood. It was not a perfectly flat disc, but thicker in the centre. Some *diskoi* had a central perforation through which a strap was fastened to the disc, to provide a firm grip when it was used. These archaeological facts should be borne in mind when we come across discoid stone implements with a central perforation so narrow that it cannot possibly have served to hold a solid stick as a handle. It is not impossible that any use of a flat perforated discoid stone implement as a "club head" is a secondary development. Incidentally, the star-shaped club-heads of New Guinea, too, have a well-known parallel in metal (copper), viz., in ancient Peru, where almost precise replicas of some (but not all) New Guinea forms were used in the same way, i.e. as war clubs, mounted on a stick. A fairly large number of these Peruvian club heads, covered with a thick green patina, has been unearthed from tombs, and there is, or was, a fine collection in the Ethnographical Museum in Berlin (Baessler, Gretzer, Reiss and Steubel collections). The clubs are represented in battle scenes painted on pottery vases excavated at Trujillo, Chimbote, etc.

(Höltker, p. 688). The present inhabitants of the country associate them with their mythology and ritual. There is a certain symbolism connected with them, and this, on its part, accounts for the magical function of the stone club-heads, as has been demonstrated by Dr. Höltker in chapters 4 and 5 of his treatise.

In the present paper, however, I am more particularly concerned with the technological side. It seems certain that even in those areas where these objects are still in use, they are not manufactured everywhere but only in certain districts. They are being distributed by way of barter from tribe to tribe, and the late Dr. F. E. Williams gave an example in his book *Papuans of the Trans-Fly*, Oxford, 1936, pp. 415 f., where he says that the stone-headed clubs in the Morehead district must be imported "since there is no natural stone in the Morehead district suitable for club-heads." "It appears certain," he continues, "that they have come, through the Wiram, from higher up the Fly River. I am told that Wiram visitors would stick the clubs upright in a row and that their southern neighbours, with whom they were trading, would then place at the foot of each its equivalent in value. They offered *melo* shells, collected on the coast, for clubs and painted arrows." It is noteworthy that, as this report clearly shows, the complete hafted clubs are imported and thus not the unhafted club-heads. Dr. Williams's account sounds almost like a description of "silent trade," but there is no indication in the text that the contracting parties were not present simultaneously. The author gives the local tribal names for the four kinds of imported clubs, the discoid, the six-pointed star-club, the four-pointed star-club, and the "plain-knob" club. He then describes the technical process of manufacture briefly as follows: "A bamboo drill was used to cut a cylindrical core out of the centre of the club. The remainder of the fashioning was probably achieved by 'pecking.'" This, however, is only Dr. Williams's theory since it is clear from the context that he has not seen any stage of the actual process. In any case, the methods applied in the manufacture, especially the perforation, were, and perhaps still are, different among the various tribes and at various localities. It is sufficient to point out that, in many instances, the perforation is of the biconical type, and this variety, i.e. cylindrical as well as biconical perforation, will be seen even from the small number of illustrations to this paper.

Our first illustration (Fig. 1) shows, for comparison, the well-known type of a hafted perforated discoid stone blade. It is a specimen from the Morobe district and is one out of many examples in the National Museum in Melbourne. It will be seen from the profile as well as from the top view of the disc that it is not exactly lenticular but has a thicker part, or roll, surrounding the perforation on both surfaces. This is a very common feature, no doubt designed to strengthen the position of the blade on the ring, consisting of plaited basket work or wickerwork, which prevents the wobbling of the heavy blade on the handle. These blades, then, should not be described simply as "discoid" but rather as "wheel-shaped." On other specimens, the thicker part, or "roll," occurs only on one surface, the other being flat or just slightly convex; and in a third category it does not exist at all, so that we can speak of perfectly flat discs, with only the peripheral part slightly tapering towards the cutting-edge on both surfaces. These latter pieces alone deserve the description "lenticular." The peripheral cutting-edge is always ground on both surfaces and is usually very sharp. The distribution of the three varieties of discoid blades needs to be studied, and a more finely elaborate map is desirable.

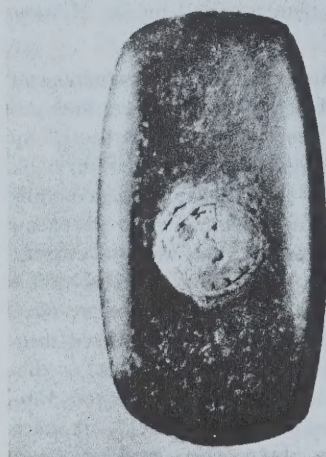


Figure 3.

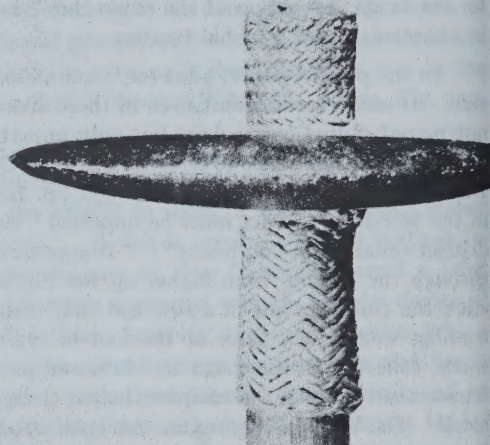


Figure 5.

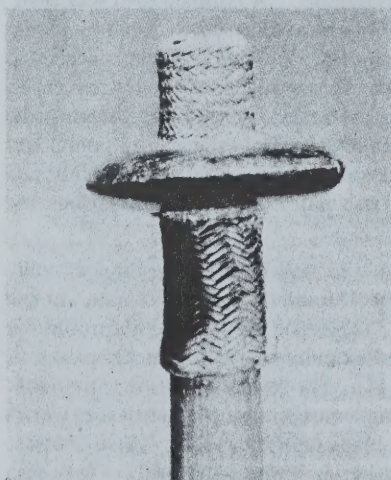


Figure 4.

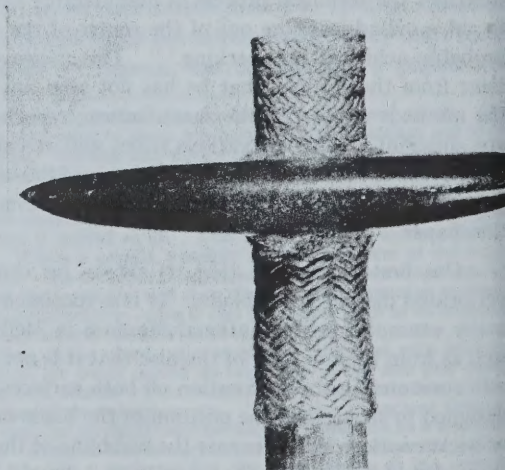


Figure 6.

Unusual rectangular stone blade, hafted, from the Langemaar R., Morobe District, N.G. Collected by Mr. G. R. Simpson.

Fig. 3. View from above. Fig. 4. One of the narrow cutting edges. Fig. 5. The long cutting edge. Fig. 6. The smooth long edge. Dimensions are given in the text.

The next illustration (Fig. 2) is unusual, though not unique. It is very seldom that a discoid blade is perfectly round. We find, at closer examination, different distances from the perforation to the edge, so these distances are not always the radii of a real circle. The piece illustrated here, from the Kukukuku people, about two hundred miles E.S.E. of Mt. Hagen, is not circular but rather oval, and it is not a flat disc either but rather a shallow concave tray with a slightly raised edge all round. The perforation for the handle is surrounded by the elevated central portion of the upper surface, whereas there is no elevation on the lower surface. The dimensions are: length of the stone, 17.5 centimetres; greatest breadth, 11 cm.; thickness near perforation, 3 cm. The peculiar shape rules out the possibility that this piece could have been refashioned by grinding down an originally circular piece.

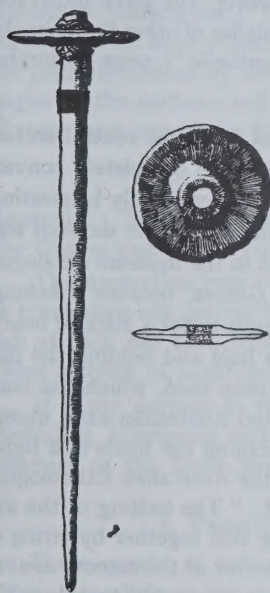


Figure 1.

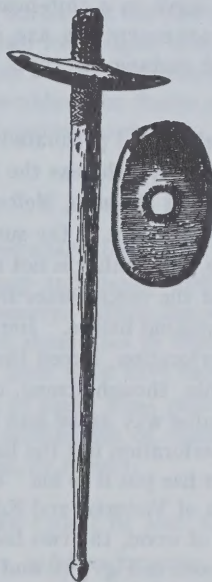


Figure 2.

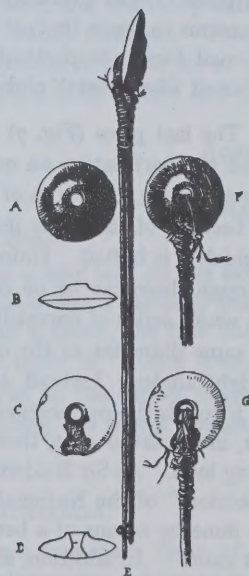


Figure 7.

Still more peculiar is a specimen collected near the Langemaar River, Morobe district, by Mr. G. R. Simpson, some years ago and now in my private collection. It is illustrated from every important angle on Plate AF, Figs. 3 to 6. Fig. 3 gives a view of the blade seen from above. The first impression is that of an axe head, or an adze blade. The general outlines are those of a rectangle with slightly curved long and more distinctly curved narrow edges, or, in other words, the contours of a rectangular blade ("Vierkantbeil"). Both narrow edges and one of the long edges are ground to sharp cutting-edges, which are clearly visible on Figs. 4 and 5. The other long edge is rounded and smooth (Fig. 6). There is no thicker part of the blade around the perforation, and no indication of any kind that this piece might have been, originally, a discoid blade which was subsequently reduced to its present shape. The dimensions are: length of blade, 15.8 cm.; greatest breadth, 8.3 cm.; max. thickness, 2.1 cm.; diameter of perforation, 3.3 cm. The material is a greenish-black

diorite. This piece seems to be unique, that is to say, as far as our present knowledge goes. It has a certain similarity to the well-known axe blades from the Fly River, but the rock material is not the same, and the rounded side constitutes a decisive difference. Otherwise the piece could be classified as a perforated axe-blade, but the hafting method, in connection with the rounded edge on one side, shows that it is, technologically, an adze. The specimen is so striking because Dr. Höltker, who does not make a distinction between axes and adzes in his paper, assures us that "perforated axe-blades are unknown in New Guinea" (pp. 683, 699). Still, he mentions a stone axe-blade from Sattelberg (now in the Ethnographical Museum at Basle) with a biconical perforation of about 1 cm. diameter in the centre, but suggests that the perforation may be a later addition, that its purpose is doubtful and that that piece "most probably did not serve as a club-head." However, the piece illustrated here seems to prove that, at least as rare exceptions, axe, or adze, blades of other than circular and oval forms, in particular almost rectangular types ("Vierkantbeile") were perforated and used like other "club-heads."

The last piece (Fig. 7) is a wheel-shaped perforated disc, with a thicker central section round the perforation on one surface only, whereas the other surface is completely convex. This specimen, No. 6129 of the National Museum, Melbourne, is extraordinarily interesting, not because of the blade itself but on account of the surprising and altogether unusual way in which it is hafted. Unfortunately, the locality is not mentioned in the museum catalogue, although there can be no doubt that the piece comes from New Guinea, because it belongs to a whole series of normally hafted discoid blades. Here, the handle is not a stick of nearly the same diameter as the central perforation, forced through the hole and holding the disc at right angles. Instead, a fairly thin, though strong, cane has been used, which has been put through the perforation in the same way as we find it on hafted Australian axes, except that, in the latter case, there is no perforation but the handle is holding the blade in a tight-fitting loop. As Sir Baldwin Spencer has put it in his "Guide to the Australian Ethnological Collection" of the National Museum of Victoria, 2nd Ed., p. 70 f., "The hafting of the axe was done by means of a bent withy of wood, the two halves being tied together by string or split cane." In addition, as can be seen in Fig. 7 (C and G), one sector of the smooth convex surface of the New Guinea piece has been pecked to form a groove, obviously to ensure the firm position of the blade. The idea was to produce a cutting implement with the cutting-edge parallel to the handle. The technical function of this piece, then, must have been that of an axe, not an adze. It is clear that this cannot have been the original purpose for which the stone blade was made, and that this unusual way of hafting must have been employed for special purposes desired by the owner of the piece. There is an obvious resemblance between this uncommon hafting of a discoid blade and the hafting method as we find it in the ceremonial axes of New Caledonia with their marginal perforation.

This small series of uncommon pieces shows that the Papuan population of New Guinea was evidently not always content with conventional types of implements, but used to make experiments with new devices, to meet practical needs. It would be useful for further investigation if more specimens of these and other uncommon forms, or variations of discoid blades, would be recorded, not only from public and private collections but also by field-workers.

For purposes of comparison, A. C. Haddon's "Classification of the Stone Clubs of British New Guinea," *J.R.A.I.*, Vol. XXX, 1900, is still our most comprehensive and best illustrated source of information. Haddon was the first to suggest that a map of the distribution of club-head types of New Guinea should be drawn up. His lists and sketches of types include several unusual forms. One unique piece may be mentioned for comparison with our Figs. 3-6. It is reproduced as No. 27 on Haddon's Pl. XIX, but, unfortunately, the line-block drawing of this particular specimen is not too clear. It is described, on p. 250, as "oblong," and the following description is given by Haddon on p. 227: "... a small club with rounded corners. The sides are almost squared, and the ends have sharp edges." The "Gulf" is given as region of origin. If my interpretation of the drawing is correct, this piece would have two essential features in common with our specimen from the Langemaar River, viz. the almost rectangular ("oblong") outlines of the two main surfaces, and the sharp cutting-edges on both narrow ends. The two long edges, however, are totally different. Those of the piece illustrated by Haddon seem to be homogeneous, both ground to planes set at right angles to the surfaces and thus resembling the flanks of the typical Maori adzes and those of some rarer axe-blades from south-eastern Australia.

L. ADAM.

Australia: Material Culture.

Black.

The Canoes and Canoe Trees of Australia.¹ By Dr. E. Couper Black.

The Australian gum tree is a large and stately tree, and even a long scar on one side of its trunk does not detract from its beauty. When this scar indicates that a carefully shaped slab of bark has been removed with stone axes in order to make a canoe, the tree has an added interest to anthropologists. Such trees have received the name of "canoe trees."

It is my purpose in this paper to make some general remarks on the canoes made by Australian Aborigines and on the distribution of canoe trees along the River Finniss, a tributary of the River Murray, near its mouth.

I. PRIMITIVE WATER CRAFT IN AND AROUND AUSTRALIA.

These consist of swimming logs, rafts and canoes. There are two main types of the latter, depending on the material they are built of, namely the strong dug-out canoe made from a tree trunk, and a lighter type made of bark. The dug-out canoe grew in size, efficiency and ornateness, depending on the requirements and skill of the makers. It developed into the magnificent war canoe of the Maori and the double canoe of the Pacific Islander, which, when fitted with an outrigger, could stand up to rough seas.

Bark canoes differ structurally according to the kind of bark from which they are made. Soft pliant bark, such as from the Stringy Bark Tree (*Eucalyptus obliqua*) can be simply pleated and tied at the ends, and with a framework of poles at the gunwales, cross ties, struts and curved ribs, a very serviceable canoe can be made. Strips of bark, usually three, can be sewn together to make a larger canoe, usually with a more ornate bow and stern. The two types on the Australian coast are known as pleated or tied bark canoes and sewn bark canoes. Thick stiff bark, such as that from the Red Gum (*Eucalyptus camaldulensis*), can be

¹ This paper was read before Section F of the Biennial Meeting of the Australian and New Zealand Association for the Advancement of Science, held at Adelaide in August, 1946.

bent only to a certain extent, and produces a low flat canoe suitable for still water. This type, named the bent-bark canoe, was used on the Murray and Darling Rivers, the lakes at the mouth of the Murray, and in the Gippsland district.

Figure I shows the distribution of the different kinds of water craft in Australia.

Most authorities agree that the Australian Aborigine entered the continent from the north and used some kind of water craft to cross a moderate span of sea with the likelihood of rough water. As he penetrated the continent his skill in building sea-going canoes degenerated until, on the south coast, it was lost altogether. The finding of stone implements on Kangaroo Island² leads us to believe that at one time a people inhabited the south coast who were able to cross Backstairs Passage. Similarly it has been suggested that the Tasmanians, who also came from the north, migrated across Bass Strait by way of the chain of islands in primitive boats or rafts. The Tasmanians were completely isolated for long ages from outside influences and boat building degenerated to a low ebb, so that here we have most primitive types.

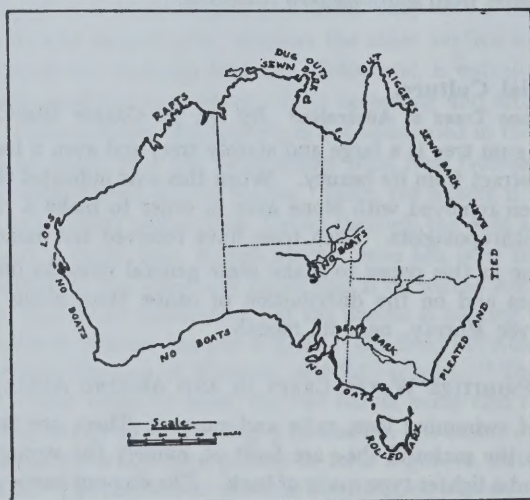


Figure I.—Map showing distribution of Aboriginal water-craft in Australia.

These were first described in 1792 by Labillardiere.³ "We found four rafts, made of the bark of trees, on the beach. These rafts are only fit for crossing the water when the sea is very tranquil; otherwise they would soon be broken asunder by the force of the waves." Later he found a smaller one in Adventure Bay. "The pieces of bark that composed it were of the same structure as that of *Eucalyptus resinifera*, but its leaves were much thinner.

¹ Off Gulf of St. Vincent, South Australia.

² Labillardiere, M., *An Account of a Voyage in Search of La Perouse, in the years 1791, 1792 and 1793 in the Recherche and Esperance*, Vol. I, p. 199; Vol. II, p. 75, and Plate 46, Fig. 1. London: B. Uphill, 1802.

Those pieces had been held together by cords, made of the leaves of grasses, forming a texture of very large meshes, most of which had the form of a pretty regular pentagon." His illustration, Plate 46, looks more like a canoe in shape, the bark rolled over at the gunwale. Peron⁴ in 1802 saw them and called them canoes, his illustration, in his Atlas, Plate 14, resembles Labillardiere's, and he also pictures two men propelling one of them with thin poles or spears.

Dampier,⁵ in 1688, on the north-west coast of Western Australia in latitude 16° 50' S. among inhabited islands, saw no canoes. Later in 1699 on the islands of Sharks Bay he saw neither natives nor canoes. In Roebuck Bay he found no canoes. Rafts and sewn bark canoes have been described from that coast by later observers.

In 1770 Cook⁶ found thin tied bark canoes soon after he reached the coast. Of those seen at Botany Bay he writes: "We found them to be the worst we had ever seen, they were between twelve and fourteen feet long, and made of the bark of a tree in one piece, which was drawn together and tied up at each end, the middle being kept open by sticks which were placed across them from gunwale to gunwale as thwarts." Canoes were numerous here, being used for fishing in the bay.

They were propelled by a pole or short paddles one in each hand. "Mean as they are, they have many conveniences, they draw but little water, and they are very light, so that they can go upon mud banks to pick up shell fish, the most important use to which they can be applied."

Peron's Atlas pictures one which corresponds exactly with the description above.

Farther north Cook writes: "The canoes that we saw when we advanced farther to the northward are not made of bark, but of the trunk of a tree hollowed out, perhaps by fire. They are about fourteen feet long, and being very narrow are fitted with an outrigger to prevent them overturning." They were propelled with poles in shallow water and large paddles in deep water. Cook thought their canoes "much like those of the islanders, though in every respect inferior." Cook spent several weeks at Endeavour River near Cooktown repairing his ship and only saw the one canoe.

Bligh,⁷ in his epic voyage in an open boat from Tahiti to Timor had more than a sailor's interest in canoes, as he feared meeting hostile natives in canoes, his party being practically unarmed. In May, 1789, he hit the Queensland coast at an island in latitude 12° 39' S. but saw no canoes there. He went ashore on another island a little farther north. "On the north side in a sandy bay I saw an old canoe about thirty-three feet long, lying bottom upwards, and half buried in the beach. It was made of three pieces, the bottom entire, to which the sides were sewn in the common way. It had a sharp projecting prow, rudely carved in semblance of the head of a fish: the extreme breadth was about three feet, and I imagined it

⁴ Peron, M. F., *Voyage de découvertes aux Terres Australes pendant les années 1800, 1801, 1802, 1803 and 1804*, Vol. I, p. 225. Atlas, par M. M. Lesueur et Petit, Plates 14 and 23. Paris: de l'Imprimerie Imperiale, 1807.

⁵ Dampier, William, *A New Voyage round the World*, p. 281. London: James Knapton, 1697. *A Voyage to New Holland, etc., in the year 1699*, Vol. 3. London: James and John Knapton, 1729.

⁶ Cook, Captain James, in *Hawkesworth's Voyages*, Vol. 3, pp. 489, 494, 498, 501, 505, 539, 577, 598, 613, 643. London: W. Strahan and T. Cadell, 1773.

⁷ Bligh, Lieutenant William, *A Voyage to the South Sea, etc.*, pp. 207, 209, 219. Published by Lords Commissioners of the Admiralty. London: George Nicol, 1792.

was capable of carrying about twenty men." This does not sound like an Aboriginal made canoe.

In 1791, Edwards⁸ met the large dug-out canoes with outriggers of the Torres Strait Islanders, up to fifty feet long.

In 1802, Flinders⁹ explored the south, east and part of the north coasts of Australia. At King George Sound in Western Australia, he wrote: "None of the islands had been visited, no canoes were seen, nor was any tree found in the woods from which bark had been taken for making one." At Port Lincoln with a good harbour and numerous islands, he saw no signs of canoes. Port Phillip Bay was the same.

Flinders saw bark canoes along the Queensland east coast, but when he reached Torres Strait, people of a different race, armed with bows and arrows, came alongside his ship to barter, in a canoe about forty-two feet long. There is an illustration of this fine looking canoe in his second volume, page 110. It has a definite prow and stern with outrigger and a sail could be erected on two masts abreast, all being evidence of a superior culture and yet very close to Australia.

In the eastern part of the Gulf of Carpentaria at Allen Isle near Bentinck Island he saw natives with a very poor raft. Farther to the west, at North Island in the Sir Edward Pellew Group, two damaged canoes were found, made of bark sewn in strips like planks, but there were signs about the place that they belonged to another race. At Morgan Island, in Blue Mud Bay, a sewn-bark canoe with a framework was taken as a punishment for spearing an officer. When later given to another group of natives, "they expressed very little pleasure at the gift, and did not seem to know how to repair it."

At Pobassoo Island, on the north coast of Arnhem Land, Flinders met six Malay prows of about twenty-five tons, which came for trepang, and had probably been coming for many years.

The above accounts are of conditions before European contact could have modified Aboriginal ideas. More recently Hale and Tindale¹⁰ and Tindale¹¹ have given good detailed descriptions of the making and use of dug-out canoes with outriggers at Princess Charlotte Bay, on the east side of Cape York Peninsula, and Tindale has dealt similarly with dug-out canoes for paddling and sailing at Groote Eylandt. Here soft wood trees and steel tomahawks were used.

Along the whole north coast of Australia there has been contact with races possessing well made canoes, with outriggers and sails, for years, perhaps hundreds of years. Davidson¹² who has endeavoured to work out the chronology of Australian water craft, considers that the log and raft may have been used by primitive people invading Australia, and that the

⁸ Edwards, Captain Edward, in the Introduction to Flinders, *A Voyage to Terra Australis*, pp. xvii, xxi, xxii.

⁹ Flinders, Captain Mathew, *A Voyage to Terra Australis*, two volumes and Atlas. Vol. I, pp. 66, 147, 219; Vol. II, pp. 11, 15, 47, 108, 110, 137, 171, 196, 197, 213, 228. London: G. and W. Nicol, 1814.

¹⁰ Hale, H. M., and Tindale, N. B., "Aborigines of Princess Charlotte Bay, North Queensland," *Records of the South Australian Museum*, Vol. 5, 1934, p. 117.

¹¹ Tindale, N. B., "Natives of Groote Eylandt and the West Coast of the Gulf of Carpentaria," *Records of the South Australian Museum*, Vol. 3, 1926, p. 103.

¹² Davidson, D. S., "The Chronology of Australian Watercraft," *Journal of the Polynesian Society*, Vol. 44, p. 1, 1935.

tied and sewn bark canoes are indigenous to Australia. These were probably developed on the east coast of Queensland and spread from there around Cape York to just beyond Bathurst Island and down the east coast to Cape Howe. The simple dug-outs were brought to the Northern Territory by Malays and single and double outrigger canoes to the Cape York Peninsula by Torres Strait Islanders and Papuans. The only effect of these outside influences had been to produce, here and there, rough imitations, serviceable for their purpose, on those parts of the coast with a little spread beyond. It is a reasonable deduction that the copying of the boats of other peoples went side by side with some admixture of their blood. As this latter did not extend to the south, so did canoe building remain stationary. The conservative character of the Australian Aborigines prevented the spread of ideas, although all along the north coast there existed examples from which they could have learned. The scanty population, allied to a political and social structure consisting of small groups, gave these people no incentive to build boats and go and see what the world was like outside. Existing at what might be termed a basic stone age level, they were content to gather food where it could be got without canoes and to leave the islands on the south coast severely alone.

It must be remembered that primitive one-piece bark canoes required large trees. Although some places on the south and west coasts might provide suitable large trees, there are great stretches which do not. For instance, at Port Lincoln,¹³ it is the opinion of old residents that there never were trees large enough to make a canoe. The rough seas of the south and west coasts would also deter them from using primitive bark canoes.

2. THE BENT BARK CANOES OF INLAND WATERWAYS.

Before the coming of the Europeans and the introduction of the steel tomahawk, it is possible that canoes were not common on the Murray and Darling Rivers. Sturt¹⁴ does not record seeing them when he first reached the Darling River in two places in 1829. In 1830 he only once mentions them on his expedition down the Murray. On the way back, a little above the Darling, he writes: "Their canoes were of the simplest construction and rudest materials, being formed of an oblong piece of bark, the ends of which are stuffed with clay, so as to render them impervious to water. With several of these they now paddled around us with the greatest care, making their spears, about ten feet in length (which they use at once as poles or paddles), bend double in the water."

On his expedition to the interior in 1844, he reports watching the perseverance of an Aborigine in cutting a bark canoe at which he laboured for more than an hour without success. He gave him an iron tomahawk to finish it quickly.

It is possible that the manufacture of bark canoes increased after the introduction of the steel tomahawk. It is interesting to speculate what would have happened to the opossums, bees and the trunks of Red Gum trees if the Aborigines had been plentifully supplied with steel tomahawks and left to themselves.

¹³ At the entrance to Spencer's Gulf, South Australia.

¹⁴ Sturt, Captain Charles, *Two Expeditions into the Interior of South Australia*, 1828, 1829, 1830 and 1831, Vol. II, p. 201. London: Smith, Elder & Co., 2 vols., 1834; and *Narrative of an Expedition into Central Australia*, 1844, 1845, 1846, Vol. I, pp. 127, 140. London: T. and W. Boone, 2 vols., 1849.

The bent-bark canoe of the Murray and its tributaries is made from a single sheet of thick strong bark. Usually that of the Red Gum (*Eucalyptus camaldulensis*) is used; occasionally that of the River Box (*Eucalyptus largiflorens*). This sort of canoe does not need supporting gunwales. Clay is occasionally used at the ends if an upward curve of the bark is not obtained. There is a good specimen in the South Australian Museum, presented by Mr. D. H. Cudmore of Avoca Station, on the Murray River. It is sixteen feet long, an average of three feet wide, and the sides curl up, higher in some parts than others. The average depth is seven inches (Fig. 2). Both ends gradually rise and from side to side it is convex. The bark averages one inch in thickness at the edges. One end is ornamented by a knob; there is no doubt that this and the edge have been trimmed by a sharp steel tool. There are two cross struts, at about five feet from one end and at about four feet from the other. These are one and a quarter inches in diameter, and set in one inch down from the edge. Near the centre on each side is a hole for a rope. Towards one end is a circle of clay, one foot and eight inches in diameter, for a fire. There is a straight pole with it, eleven feet long, one and a half inches in diameter, tapered at both ends; also a thinner one, like a spear shaft, eight feet nine inches long and about one inch in diameter. This canoe is in a good state of preservation. Accompanying it are three photographs of it in use on the Murray.

In Angas's "South Australia Illustrated"¹⁵ are two coloured pictures of bark canoes with Aborigines in them. Plates XXX, No. 14, and XLVII, No. 18. They show irregular roughly shaped edges, and are both smaller than the Museum specimen. These canoes were probably made in all sizes, big family ones and sports models for young men, proved by all sizes of scars being seen on gum trees.

The description of the making of a bent bark canoe given by an early writer, Beveridge,¹⁶ whose observations from 1845 to 1868 cover a period, as he says, "before the aborigine became sophisticated by contact with Europeans and their ways," is as follows: "When the bark for a canoe is cut, stretchers are immediately placed across it at intervals of three feet; this is done to prevent the bark from curling whilst the sap is in it; short props are also placed under the stem and stern to keep them from becoming too much depressed by their own weight. If at this stage the canoe should not have the exact shape desired by the maker, he places heavy billets of wood inside at those parts which require pressing outwards, and the bark being full of sap, the pressure effects the end aimed at. After this, and whilst the weights are still in the canoe and the props still in position outside, a coat of well puddled clay is plastered all over the interior, which effectually hinders sun cracks; in this condition the canoe is left in the sun to season. After ten or fifteen days' exposure the bark has become so hard that it is able to retain the shape ever after, no matter how roughly it may be handled."

From one to two years is given as the useful life of a canoe.

For a large part of their course, the Murray and Darling Rivers flow through low rainfall, semi-desert country, where the Red Gum lines their banks mile after mile. There are fair sized Box Trees on some flats. In these dry areas, and in the absence of the Stringy Bark

¹⁵ Angas, George French, *South Australia Illustrated*, Plate 30, Fig. 14, and Plate 47, Fig. 18. London: Thomas McLean, 1847.

¹⁶ Beveridge, Peter, "Of the Aborigines Inhabiting the Great Lacustrine and Riverine Depression of the Lower Murray, Lower Murrumbidgee, Lower Lachlan and Lower Darling," *Proceedings of the Royal Society of N.S.W.*, 1883.

type of gum, with its pliable bark, it is difficult to see what other type of canoe the Aborigines could have made.

The water on the two big lakes, Alexandrina and Albert, is frequently rough and on that account the use of these bark canoes would be limited to quiet days.

From questioning people who profess to have information handed down, I understand that a triangular shaped raft of rushes took its place on the lakes. There is a specimen of the latter in the South Australian Museum. That would leave as a market for canoes the short stretch of the Murray around Hindmarsh Island, the estuaries of the River Finniss and Currency Creek, and the channels between the small islands and the Coorong.

The Red Gum (*Eucalyptus camaldulensis*) is one of the most widely diffused species of the eucalypts, being found in every Australian State except Tasmania. It prefers a good soil and a moist bottom, hence it frequents the banks of streams and alluvial flats. In good rainfall country it is found on hillsides. It may reach one hundred feet in height. It is usually somewhat scrambling and spreading in its habit, which gives it a picturesque appearance. The bark is smooth, thick and solid, whitish with blotches of an ash grey colour. There is often rough outer bark adhering near the base. Nobody has been able to give me an opinion about the age of Red Gums. The deep vertical furrows in the dead wood of some canoe trees along with the thick bulge of the overgrowing bark at the edges, compared with the smooth surface and small bulge of others, give the impression of great age to the former.

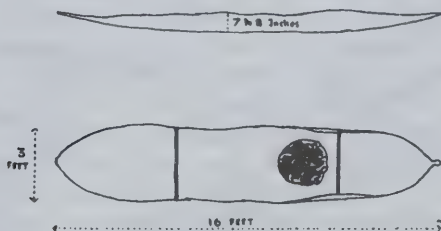


Figure 2. Plan and profile of the bent bark canoe in the South Australian Museum.

The Red Gum is particular about the freshness of the water reaching its roots, hence it does not grow on the shores of the great lakes, the lower part of the Murray or its tributaries entering there (Fig. 3).

Going upstream the first Red Gums are seen near Murray Bridge, about twenty-five miles from where the Murray enters Lake Alexandrina. On the Finniss River, the Red Gums begin a mile and a half below the railway bridge. These spots mark the limits to which the salt water penetrated at high tides and low river. These conditions of salinity do not prevail now, since the building of barrages at the Murray mouth in recent years.

This distribution of Red Gums has been a factor in so many trees having been cut for canoes along the Finniss River. Here a sort of native ship-building industry must have existed to supply those people living in the treeless parts. Two old residents at Ashbourne on the Finniss River gave the information, passed on from older people since dead, that early

settlers carried canoes, cut by Aborigines in that district, to Point Sturt on Lake Alexandrina, in their bullock waggons. The distance would be twenty-three miles, and the nearest distance to the wide estuary of the Finniss River where they could be floated would be at least twelve miles. This easy transport, plus steel tomahawks, must have undoubtedly given a stimulus to the canoe cutting industry in that area. In pre-settlement days, well beaten paths must have existed to carry canoes through the scrub, as the river, flowing through rocky gorges, blocked with fallen trees, etc., would not have allowed floating them down from anywhere but just above its estuary.



Figure 3. The lower end of the Murray River, part of the lakes, the exit to the sea and the rivers which rise in the Mount Lofty Range and flow into them.

= marks the lower limits of Red Gums on the bank of the streams.

— marks the upper limit of large Red Gums suitable for making canoes.

The River Finniss (Fig. 3), a tributary of the lower part of the Murray, begins on the eastern slopes of the Mount Lofty range at the twelve hundred feet level as Meadows Creek, which flows in a south-westerly direction parallel to the range to near Mount Compass. Here at Yundi are extensive fertile flats from which it flows east through deep gorges covered with dense scrub to wide cultivated flats near Ashbourne. At about the six hundred feet level the Red Gums begin but increase much in size on the Ashbourne flats. Much timber getting and clearing have been done here, and hundreds of large trees cut down. Here from the north, running in a narrow valley, the Finniss is joined by Bull Creek. Leaving the Ashbourne flats, it runs rather west of south through deep gorges, then takes a south-easterly direction,

spreading out into occasional flats, and about two miles below the railway line opens into a wide estuary, where in the old days it was subject to the effects of high and low river and tides. The estuary continues for about six miles and joins the Murray a few miles after the latter leaves Lake Alexandrina. Two and a half miles above the railway line the Finnis is joined by a long tributary from the north, Giles Creek, along which are some fine canoe trees. Canoe trees are found along the Finnis from one and a half miles below the railway bridge up to the Ashbourne flats, except in the deep gorges. One doubtful tree was found two miles further upstream. Canoes cut on these upper parts of the river would have to be carried ten or twelve miles at least to where they could be floated. Altogether I have counted about one hundred and fifteen canoe trees on the Finnis River and its tributaries.

Native camp sites are common along the lower part of the estuary, but on the river proper I only found stone implements on three occasions. One seemed purely a small workshop site, the others did not give the appearance of prolonged occupation as do those lower down by the lake.

3. DESCRIPTION OF CANOE TREES.

The scar from bark removal sometimes extends right down to the ground (Fig. 4), generally a foot or so up, and sometimes many feet up (Fig. 5) the notches made for steps are sometimes seen. Bark is easiest removed and probably most suitable for bending at those times of the year when the sap is rising. After outlining the shape with cuts through the bark, sticks were driven in to prize up the bark. This was done slowly, perhaps days were spent over it, the natives making periodical visits to drive the wedges in further. I have noticed that most cuts face an easterly direction. There may have been some ritual reason for this, or perhaps they started the job in the morning and worked in the best light. Most canoe trees are straight and upright. I saw no evidence of cutting on the convex side of a bent tree, although I have seen a cut on the concave side. If a tree was leaning, the cut was often made on the underside. When the cut went right to the ground, the dead wood often later became burnt out. I have formed the opinion that this then led to the roots pulling the lower part of the trunk apart, causing the wide expanded base with a burnt out hollow interior so often seen. With this kind of tree it is hard to say whether a small canoe had been cut from it or not. The whole of the dead wood in the canoe cut is sometimes burnt out, often right to the centre in the hollow trees which are like a chimney. The bark of the canoe in the South Australian Museum measures about three feet six inches wide following the curve. Only a few trees measured following the curve were near this width. This can be accounted for by a growing in of the bark at the edges, well shown in Fig. 6. Big canoe cuts are commonly eleven to fourteen feet long and about two feet six inches to three feet wide. There are numerous trees with smaller cuts, until the stage is reached when it is hard to say whether a small canoe or a big dish was cut from the tree. Here and there these small cuts for dishes or water vessels are very numerous. Trees were seen from which two or more canoes have been cut, the arrangement of the bark showing that one had been cut long after the other.

The outline of a canoe cut has been distinguished on an occasional dead tree (Fig. 7), by a difference in the surface of the dead wood. I had hopes that a determination of the age of these gums might throw some light on the unsettled question of how long the Aborigines had been in Australia, at least how long they had been making bark canoes. I understand

THE CANOES AND CANOE TREES OF AUSTRALIA.

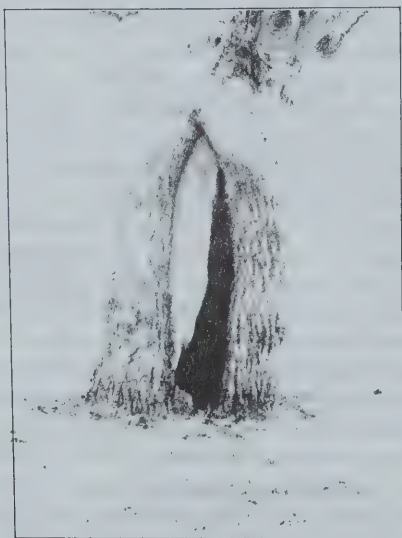
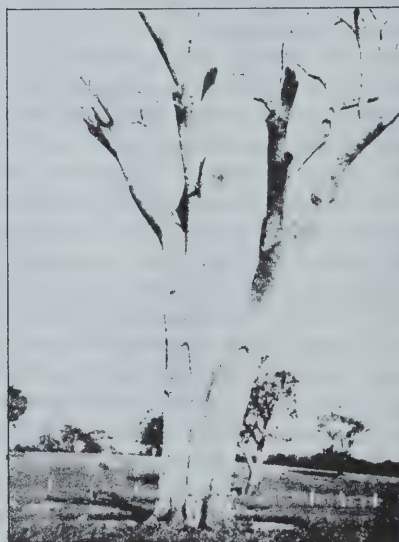
*Figure 4.**Figure 5.**Figure 6.**Figure 7.*

Fig. 4. Finnis R., left bank, Section 2327, Hundred of Kondoparinga [Note one-foot rule at base]. Fig. 5. Finnis R., right bank, Section 2320, Hundred of Nangkita. Fig. 6. Finnis R., right bank, Section 2319, Hundred of Nangkita. Fig. 7. Giles Ck., right bank, Section 1825, Hundred of Kondoparinga.

that the structure of the Red Gum does not lend itself to showing definite yearly rings as some trees do.

All bark taken from gums was not used for canoes. Early explorers mention the use of sheets of bark for the natives' primitive huts or windbreaks. It is recorded also that Europeans cut bark and employed Aborigines to cut bark for them, to roof their houses and sheds. I have seen it mentioned recently as a good roofing material during the present shortage of galvanised iron. Wide, relatively short, barked areas were seen on some trees. Other trees marked by me as doubtful canoe trees possibly had their bark removed for such other purposes.

Many residents in the Finnis region know about canoe trees and farmers say they would never cut them down. Some are bee-keepers and have an added interest in preserving gum trees. The Ashbourne school has a fine canoe tree alongside it, and the teacher has stimulated the children to take an interest in local geography and history. The children in their notebooks have drawn pictures of canoe trees, and maps showing those in the immediate vicinity.

There are four other streams (Fig. 3) which flow from the Mount Lofty Range into the Murray or Lake Alexandrina. Working from the south up, they are Currency Creek, a small stream with few large gums. Only a few canoe trees have been found there. Then comes Black Swamp, a wide slow running river with a swamp flora and no Red Gums on its banks. The Angas River may have a few canoe trees on it. The Bremer, a larger river, has many fine canoe trees on its wide flats, possibly more than the Finnis.

The Finnis River and its tributaries, Giles Creek and Bull Creek, and the adjacent flats and hill sides have been examined in the course of week-end walks, the canoe trees noted and measured and good specimens have been photographed. Their positions have been recorded with reference to right and left bank and to the number of the section on the Hundred maps issued by the Lands Department of South Australia. This survey will form a record of the 115 canoe trees in existence in 1946 on the River Finnis and its tributaries. It is intended in a subsequent paper to give a description of their position and how to find them.

E. COUPER BLACK.

Melanesia : Social Anthropology.

Bell.

The Narrative in Tanga. By F. L. S. Bell. Continued from Vol. 3, No. II.

Here follows the legend of Makosofu the Storm Magician :

In order to commemorate a number of his clansmen who had recently joined their ancestors in the land of the dead, the great chieftain of the *filamal* clan, by name Makosofu erected a funeral house (*puk nulnul*)¹² and carried out the customary rites associated with such a ceremony. One of these rites included the presentation of a pig to all of the important kinsmen who had close relatives buried in the vicinity of the *puk nulnul*. Unfortunately, he omitted to make such a presentation to Sulufkorofe.

A few days after the completion of the rites, the latter, accompanied by his clansman Kinehrlam, visited Makosofu and formally protested against being slighted at the ceremony. He demanded that Makosofu pay him damages for such a breach of clan etiquette, pointing out that two of his relatives lay buried beneath the *puk nulnul*.

Makosofu did not attempt to deny that Sulufkorofe had a right to be included in the distribution of the funeral pigs but suggested that he should have indicated his desire

¹² For a description of this structure and an explanation of other matters connected with the commemoration of the dead in this legend, see my article on "Death in Tanga," *Oceania*, Vol. VII, pp. 316-339.

to be so included at an earlier feast called *en fafas*, during which such matters were normally discussed. He then turned to his son and ordered him to call up his pigs.¹³ When the pigs were assembled, Makosofu picked out the two largest and said to Sulufkorofe: "Well! Do you want these two?" To which Sulufkorofe answered: "No! I don't want any pigs. All that I want are a few *fat*."¹⁴ Makosofu then ordered his son to bring the large basket in which he kept his finest *fat*. He picked out the most valuable token and offered it to Sulufkorofe. The latter refused to take such a valuable disc and said that all he wanted were a few *tintol*. Makosofu then turned upon him and said: "What *do* you want? First of all you say you want a pig. Then you say you don't want a pig. Then you say you want *fat* and now when I offer you *fat* you say you want small *tintol*. What *do* you want?"¹⁵ Sulufkorofe finally accepted five small *tintol* as sufficient compensation for his damaged pride.

Shortly after this incident Sulufkorofe built a large funeral house just above high-water on the beach opposite the islet of Sunmul. At the conclusion of the rites connected with this house he again quarrelled with Makosofu because of the latter's failure to contribute a pig towards the final funeral feast.¹⁶ In answer to this complaint, Makosofu said: "You are always too late with your complaints and requests. Why didn't you present me with a bunch of betel-nut at *en fafas* and I would have known what you wanted. This is the custom among us people. Why don't you follow it?" He "closed the mouth" of Sulufkorofe by presenting him with a large pig.

The next afternoon, as Makosofu was returning to his beach settlement at Angfara from his garden lands in the district of Upper Lop, he commenced to "sing" a series of powerful storm spells. On arriving at Angfara, he performed the final act in the magical cycle by burying the skull of a pig. The next morning he repeated the incantations and by dusk huge waves were breaking over the reef and racing up the beach. Kinehrlam, realizing at once that such extraordinary conditions were the work of but one man, the Storm Magician, Makosofu, hurriedly despatched a messenger with a gift basket containing ten *fat* and four plaits of native tobacco to the sorcerer, with instructions to appeal to him to calm the raging seas.¹⁷ Makosofu asked the messenger whether the large funeral house belonging to Sulufkorofe and now being used by him and members of the subsection of his clan as a men's house (*bia*) had suffered any damage. On being told that the waves had not yet reached it, Makosofu announced that until the house had been destroyed he would do nothing to abate the storm.

In the morning not even one house pole of Sulufkorofe's *bia* remained standing. Kinehrlam immediately sent one of his wives to tell Makosofu that the house had been

¹³ Every pig has a name in Tanga and is trained to respond to that name, even as a domesticated dog responds to his name in our culture.

¹⁴ The *fat* is a valuable shell token of exchange. A similar token but not so valuable is the *tintol*. For further information about these tokens see my article on "The Social Significance of AM FAT among the Tanga of New Ireland," *J.P.S.*, XLIV, 96-111.

¹⁵ Of course, all of these remarks and Makosofu's whole treatment of the situation were designed to make Sulufkorofe look small in the eyes of Kinehrlam.

¹⁶ It must be remembered that these two men stood to each other in the relationship of "brother" and as such, there existed an obligation of mutual assistance.

¹⁷ Funmatbau gave me a most vivid description of the crying wives and children of Kinehrlam attempting to barricade their house against the encroaching seas and high winds.

washed away. On hearing this the sorcerer came down to Angfara, dug up the skull of the pig, cast it into the angry waters and began hurling stones and magical imprecations at the wild waves. By afternoon, the storm had died away and the sea was as calm as a mill pond.

The next morning, Makosofu was confronted by an angry Sulufkorofe who claimed compensation for the loss of his log gong, his skin drums, his spears and other personal possessions which had been washed away in the storm. Makosofu laughed at him and said: "What! Complaining again! That house of yours has been paid for by me. I sent along a pig. Isn't that enough?"

Sulufkorofe received no compensation from Makosofu and the huge boulders which now line the reef between the shore and the islet of Sunmul are a constant reminder to all of the ample revenge taken by one clansman against another who had unjustly attempted to lower his prestige in the sight of his fellows.

Among the interested listeners to Funmatbau's story of the vengeance wrought by his distinguished parent Makosofu upon the hapless Sulufkorofe was a man named Tuangon from the island of Ambitlik in the Feni group.¹⁸ He had been invited to spend a few weeks among relatives on Boieng and seeing that I was interested in recording the legends of the Tanga people he offered to give me an account of how the Feni people came to acquire their first pigs. As is usual with purveyors of these legends, my informant stressed the fact that it was not just simply a tale he was about to tell me. It was an account of something which had actually happened and had been passed on to him by a descendant of the principal character. Here follows Tuangon's legend of Gugu and the First Pigs on Feni:

Many generations ago, a man of Feni named Gugu was gathering nuts from the topmost branches of a canarium almond tree growing on a tall mountain called Pakalun Ma:li on the island of Ambitlik. Before descending from the tree he looked out over the waters surrounding Feni and saw on the horizon to the south-south-east a small island now known as Muson.¹⁹ It was the first time that anybody had seen Muson from Feni.

Gugu descended from the tree, gathered up his nuts, came to his house and went to sleep without mentioning his discovery to anyone. The next morning, before the break of day, he went down to the beach and set off in his canoe²⁰ in the direction of Muson, using the tall almond tree as a guide post. The farther south he paddled, the lower Feni slipped into the sea until at last even the top of the tall canarium tree was lost to sight. Gugu looked in the direction of Muson but he could not see it, so he turned back towards Feni.

On arriving home, he gathered some leaves of a *dracæna* plant, heated them over the fire and placed them in the sun to bleach. When they were quite white, he tied these leaves to the end of a very tall bamboo pole which he then hauled to the top of the almond tree, lashing it to the topmost branch. The next morning, he again set out for Muson, using the canarium tree with its projecting pole as a landmark. It served him

¹⁸ The people of Feni and of Tanga are of one culture and one speech. So far as I can tell, there appears to be not the slightest difference between their respective ways of life.

¹⁹ Nissan or Green Island.

²⁰ The canoe was a small outrigger canoe (*wang*), the only type of canoe then known to these people.

well, for upon this occasion he sighted Muson, although not until he had lost sight of the island of Feni and the canarium tree and even the bamboo pole. All that he had to guide him back to Feni was the merest glimpse of the white *dracæna* leaves.

When he arrived at Muson, he was observed beaching his canoe by a chieftain of that island, by name Fanumbari, who said to him: "Where do you come from?" Gugu answered: "Feni." Fanumbari then said: "Ah! That place with the mountains?" To which Gugu replied: "Yes." Fanumbari then asked him: "You belong to the clan called Tasik, eh?" Gugu said: "No, I am a Korofi man." Fanumbari then said: "How is it that you alone came to our island?"²¹ Gugu then told the complete story of his discovery of Muson and his attempts to reach the island.

Fanumbari hid Gugu in his house and then summoned his people to prepare a large feast.²² When the food was ready for distribution and all were assembled, Fanumbari led Gugu from his place of concealment and introduced him to the people. A large pig was formally presented to Gugu and he again told them the whole story of his adventurous voyage. He also told them that there were no pigs on Feni.

When all the food had been distributed, Fanumbari announced that he would take Gugu back to Feni in one of their large plank canoes (*mon*) on the morning of the following day. In addition to its human crew, the *mon* carried a sow without a litter and a sow with a litter. On reaching Ambitlik, the pigs were let loose and from them have descended all of the pigs in the Feni Group.

The wife of Gugu, thinking him dead, since he went away without telling anyone where he was going, mourned him as a widow. His clansmen, also thinking that he had been lost at sea, were holding that special type of funeral feast for those lost whilst on a voyage (*pala:k na mi*). They were overjoyed to see Gugu jump from the *mon* and run up the beach to his sorrowing wife. They expressed their gratitude to Fanumbari and his kinsmen by arranging a special feast of welcome and loading them down with *fat*, valuable shell necklaces, bundles of a much prized red dye and fathoms of twisted native tobacco.

When the time came for the visitors from Muson to return home, they were told that they would always be welcome in Ambitlik. The Muson people reciprocated by issuing a general invitation to the Feni people to visit their island and many such visits have been made to Nissan by Feni islanders since that day. All such voyagers still use the tall canarium almond tree with the white mark on its topmost branch as their guiding landmark.

In response to a story told by the ethnographer concerning the Loch Ness "monster," a visitor from Malendok Island recounted the legend of the Boy and the Water Snake:

Flowing from the mountainous interior of Malendok Island is a stream which widens and deepens as it approaches the sea. In this fresh-water stream, many good fish abound.

²¹ The ethnographer doubts whether there is any community of culture between the peoples of Nissan and Feni. However, according to his informant the principal characters of this legend had no difficulty in communicating the one with the other.

²² In the legend, as told to me, were included details of the preparations for the feast and of the amount of food gathered and placed on display. The native audience delight in such details and such repetitions as Gugu's story of how he came to discover Muson.

One morning a boy came to this stream to fish. After spearing all he needed, he was wading ashore when a large water "snake," deep red in colour, about a foot in diameter and eighteen feet long rose up from a deep hole in the stream and attacked the boy. It chased him ashore but the boy took refuge in his father's house, whereupon the "snake" (*moahk*) returned to its home under a large rock on the bottom of the stream.

The boy's father, noticing that he was out of breath, asked him from whom he had been running away but the lad said that he had not been running away from anyone. He had merely been trying to see how fast he could run. His father repeated the question but the boy still denied having been pursued by anyone or anything.

The next day, the boy returned to the stream, speared his quota of fish and was again chased by the *moahk*. He again eluded capture by taking refuge in his father's house. The father questioned his son again and the boy continued to conceal the real cause of his breathless condition. However, the next morning he approached his father and spoke to him as follows: "Go and tell twenty men to arm themselves with their clubs so as to be prepared to kill a large *moahk* which inhabits the stream where I fish. When you see me running away from the stream, tell the men not to leave their place of concealment until the 'snake' is in such a position that it can be attacked and killed from all sides." His father did as the boy asked and the *moahk* was ambushed and beaten to death by the waiting men.

The "snake" was then carried off to the village of Miok and made the principal dish²² of a feast held in commemoration of its capture.

As a final example of the *legendary* form of the narrative in Tanga, I shall quote the story of the Boy with an Abnormal Thirst. This legend is typical of those which derive substantiation from certain natural features of the landscape.

There was once a small boy who used to cry for a drink of water every night. His mother gave him a drink but he always cried for more. One night, the mother became so exasperated with the child that she chased him out of the house. His father's brother took pity on him and told him to come with him to the spring at Ga:ga:, where he could drink as much as he wished. However, the little boy seemed to have an insatiable thirst because, after drinking his fill at Ga:ga:, he drank again at Ambaba, at Angfara, at Fadan, at Anlamis, at Tenmatuk, at Aebil, at Pa:ka:t, at Torur, at Sunking, at Polpol, at Piglingfut, and at BurburLOW. By this his belly had distended to an enormous size and as he took his last gulp of water "his insides burst" (*ambu:ya: makula: fus*). The boy broke into two pieces, which turned into stone, and from between them flowed a stream of water which may still be seen flowing at BurburLOW.

When the food storehouses are empty on Boieng Island, the surface of these two rocks becomes covered with a light coloured mossy growth—the hair of the boy. However, when the harvests have been gathered and there is plenty of food available, the "hair" of the boy again assumes its naturally dark hue.

F. L. S. BELL.

²² As no Tanga would even eat a coconut which had come into contact with a snake let alone a snake itself, I feel that the animal referred to in this legend as a *moahk* was a large eel brought to "legendary" proportions for dramatic effect.

Papua : Social Anthropology.**Austen.**

Notes on the Turamarubi of Western Papua. By Leo Austen, Dip.Anthr. (Syd.), Resident Magistrate (Retired), Territory of Papua.

PART I. GENERAL.

(i) *Introduction.*

The material for this article was gathered over a period of three years when I was stationed in the Delta Division of Papua, and part of it formed the substance of a thesis presented to the University of Sydney in 1930. It has now been revised and added to as far as was possible, but there are still one or two missing links owing to the fact that some pages of my notes went astray in New Guinea during the Japanese invasion.

During the past 25 years of service in Papua, I have been fortunate in being stationed in various parts of the Territory, but more than half of my service has been spent among the Papuan tribes west of Cape Possession, first as a patrol officer, and later as Assistant Resident Magistrate and Resident Magistrate. My work brought me into contact with the majority of the tribes living south of the 7th parallel of southern latitude between the Purari and the Morehead Rivers, and several patrols covering a period of more than a year were spent in the extreme north-west from the Tedi (Alice) River Junction, some 460 miles up the Fly River, to the Star Mountains and eastward to the Palmer River. All this knowledge gained was of some value in placing the neighbours of the Turamarubi in their proper category.

It was owing to an inter-tribal raid by the Kerewo people of the Goari Bari district on the Baru tribes who were settled around Bell Point near the western entrance to the Turama that I was sent to that district. On arriving there a few months after the raid, I found that many of the head-hunters concerned had already been arrested by Government officials, and much work had been done in the lower part of the Turama estuary towards bringing about pacification. Higher up the river, however, there were still numbers of arrests to be made in connection with murders and head-hunting raids that had taken place some years prior to my arrival.

The Police Camp had at first been placed on Morigi Island to guard against a rumoured raid which never eventuated, but later it was moved over to Gibu Creek on the western bank of the river. Here, everything possible was done to cement the friendship which had begun between the Baru and Doriomo tribes and the Government, and it was not until I considered that a foundation for future peace in these parts had been laid that we proceeded northward and encamped at Kesemuba among the Umaidai tribe. Reports at Gibu had led us to believe that we could find both the Umaidai and the more northerly Wariadai people hostile to us, but on a hasty tour of inspection of the district, an unfortunate mishap which ended happily brought us unexpectedly into friendly contact with the Wariadai. On setting up camp among the Umaidai, we were at first coldly received, but later when all necessary arrests had been made in these parts I was able, by degrees, to change this attitude and form strong friendships with a number of the elders of the village. Once this was done, I was accepted by the others. It was, I think, because of my interest in their customs and their social life, that the elders came to look on me as a friend, and the fact that all necessary arrests had been made without having to fire a single shot helped a great deal. Certain friendships I made in those early days at Umaidai lasted throughout my whole term in the Delta, and as I cultivated the elders

in preference to the young bloods, I was able to obtain much information that would otherwise have been withheld. Naturally, I was not told everything, but these notes will be useful as a basis for more intense work later on. It was strange that when I arrived on the Turama, the patrol officer who had been there for some weeks remarked how primitive these people were and how they lacked all ceremonial life. It will be seen from this article that the Turamarubi lead a life filled with ceremony.

I chose the Umaidai as a base for anthropological work, not only on account of their friendliness, but also because they had been far more untouched by outside influences than were the Wariadai to the north and the various tribes to the south and east. Certainly several of the Umaidai, as well as a number of the Wariadai, had been to gaol at Daru some years previously, where they served a few years imprisonment for murder, but in most cases the sentences had been short and they came back to their homes little changed by their contact with civilization except for a great distaste for the confinement of gaol life and the food that was given to them. They also had a greater keenness for obtaining new iron tools, and a preference for the "trade" tobacco of the white man's manufacture. Many of the ex-gaolbirds were able to speak the *lingua franca* of the coast—police Motu—and this was undoubtedly of great value to the patrols that came along afterwards.

Although their sojourn in gaol was so much disliked, it did not altogether deter them from their greatest pleasure, head-hunting. Still, they were considerate of the Government on their future raids, for they were careful, wherever possible, to choose a tribe which had not been in contact with the Government, or at least did not have a native Village Constable wearing a Government uniform. As the influence of the Government has now been considerably extended in these parts, it becomes more and more difficult for the people to find a neighbouring tribe on whom they can expend their pent up energy, and one day the womenfolk will call the young bloods a lot of females—then the fat will be in the fire and off will go a head-hunting expedition to some neighbouring tribe to make a "payback" for some almost forgotten insult, or to get square over a head taken by their neighbours many years ago. It will be necessary to direct their head-hunting activities into new channels, and it is hoped by the writer that a better knowledge of these people will prove of value to those interested in them, and perhaps help officials in contact with them, as they are to-day showing many changes due to contact with more civilized neighbouring tribes. Furthermore, many of these Turama lads went to Port Moresby in 1942 and carried and worked for ANGAU. Some even went over the Owen Stanley Range during those early days, and a few have left their bones a thousand miles from their ancestral home.

From the foregoing, an idea can be gauged of the primitive state of these people not so many years ago. The Morigi have been to work on plantations, and they are a difficult people to handle. The Umaidai and the Wariadai had never been to work, though a very few had had short spells of about a year as "local" Armed Constables at Kikori Station. To one of these ex-locals I was much indebted, as he spoke fluent police-Motu (if one can say that anyone can speak police-Motu fluently), and he proved an excellent interpreter. At first I had used a Morigi man who had spent some years in Port Moresby and who spoke good English. He was also unmarried. I could not have chosen a more thorough rascal who delighted in letting his imagination run riot. It was not long before he was replaced with a more solid type. When I got to know the Umaidai, I found Mesu of Ewaimia village, a man who was

ever willing to be used as an interpreter as he was anxious I should understand his people. He spoke Motu well and I knew it well enough for my purposes. Mesu was also of importance in the village, and so the elders did not mind giving information in his presence. Mesu's work was checked with the services of another interpreter—Mainu of the Avisonemi. The latter was a bush native, who spoke the Turamarubi language perfectly, and had a very good knowledge of police-Motu. Also he had been through many of the ceremonies of the Turama tribes.

I depended greatly on my interpreters, although I could speak a little of the local language, and understood an appreciable amount of what was said. This was no doubt a great drawback, as otherwise I would probably have been able to obtain much more material, but when one realizes the amount of official work that had to be done in a division like the Delta, one can understand that it was difficult to obtain an insight into all the different customs and ceremonies that go to make life worth living for these peoples.

The late Sir Hubert Murray was always most interested in these tribes of the Turama, and he visited them on many occasions. In his courts he dealt as gently as he could on the first occasion of a man being brought before him for murder. He knew these people could not stand being in gaol for any length of time as they would die of nostalgia, and so when the Turama man came to gaol, the Magistrate in charge of the division watched his prisoners carefully, and when any of the older men were going down hill with homesickness, he had power to discharge the prisoner and send him home. On the occasion of the arrests made during my time there, the Governor even allowed the womenfolk from the Turama to come and make a temporary home on the opposite side of the Kikori River. There these women fished and crabbed and brought sago from their swamps, and made delicacies for their relations. In the evening, although the gaol food would be available for their evening meal, the women streamed up the hill to the compound and handed their loved ones the extra morsel through the barbed wire fence. Surely no other Native Administration in the world dealt so humanely with their primitive convicts, and yet behind it all was the firm discipline necessary to change the people from their harmful customs.

(ii) *Geographical.*

The Turamarubi, as the people dealt with in this paper are to be called, inhabit the country on either bank of the estuary of a large river known as the Turama. This river flows into the Gulf of Papua between the estuaries of the Fly and Bamu on the west, and the Paibuna estuary and Omati delta on the east. It takes its rise near the peak of Biwau on Mt. Leonard Murray, which lies between the Upper Strickland river and the watershed of the Kiko, and flows some hundred or so miles south-eastward through mountainous country. Near the mouth of a small tributary, Baira creek,¹ it turns more towards the east and flows through more level ground. A few miles west of Hawoi Junction (Hawoi Bobo), the banks become lower and the land more swampy, and then the river bends again south-east and gradually widens into an estuary, which is 18 miles across at its mouth.

A large creek, the Komiwu, meets the Turama just west of its confluence with the Hawoi. It flows from the south, and has its source in the basalt and the limestone hills which form the divide between the watersheds of the tributaries of the Turama and the Bamu.

¹ Discovered by H. J. Ryan, R.M., on 25th September, 1913.

Two other important creeks flow into the Turama from the west—the Sidikoromo, meeting the Turama opposite Turibomu or Umaidai Island, and the Gibu, much farther to the south, flowing into the estuary opposite Neabo Island. Both these islands have extensive mud banks off their western shores, which are of great economic value as collecting grounds for fish, mollusca and other food products obtained from the river.

On the eastern bank, the small tributaries south of Hawoi Bobo are the Wamuri, the Bahi and the Nanero, all of which, though of small size, are much used by the Turamarubi as commercial waterways leading to the bush villages of the neighbouring Kasere tribe.

The western extremity of the mouth of the estuary is shown on the maps as Bell Point, but to the native it is known as Baru Bari. The eastern point does not seem to have a native name, but cartographers show it as Jukes Point. Although we would say the northern end of the estuary began a few miles east of Hawoi Junction, the natives speak of the Turama as a river as far south as Turamamuba, a point on the eastern bank about 16 miles north-east of Jukes Point.

Entering the Turama from Goaribari Island, where Chalmers the missionary was murdered in 1901, one passes the Omati Delta and the Paibuna Estuary. The land is low, and of mud formation on which the dull green of tall mangrove trees is unvaried. To pass Jukes Point even in a launch, one must take a course several miles out to sea owing to mud banks and then come into the estuary, keeping the island of Morigi close at hand. The eastern channel lies between this island and the low flat mainland.

Off the south-eastern shores of Morigi are extensive sandbanks, which once were part of the island, but the heavy swells rolling in from the Gulf of Papua have washed away the trees and soil which covered them. Passing south of these banks towards the west, another entrance is seen between the large island of Morigi and the much smaller island of Neabo. This passage is known as Giwoidamu. Like Morigi, the island of Neabo was also of much greater extent in former times. Once it was inhabited, and several villages of large size were to be found on its shores, but at some time during the last hundred or so years the erosion that took place was so great that the inhabitants moved over to the western bank of the estuary.

Along the western bank of the mouth of the Turama there exists a deep-water channel as far as Gibu Creek. This passage is locally called Binadamu. Years ago this channel between Neabo and the western mainland was of a depth of two fathoms at low water, but it is gradually silting up at the north-western end, and unless some exceptionally heavy south-east blows take place it will eventually become of little value to launches proceeding upstream.

The lower reaches of the estuary are very depressing in their scenery—the continuous dark monotonous forests of mangroves, with here and there some giant swamp tree overtopping its neighbours. Now and then the line of forest is broken by a narrow opening, showing a few acres of cleared land a few inches above high-water level. On this can be seen a long communal house and perhaps a collection of straggling family houses with their light brown sago-leaf roofs which can be distinguished from a long distance. The clearing is usually made at a place where visitors or enemies can be discerned from the verandahs of the long house approaching the village, up or down stream, long before they reach the landing place.

Proceeding up the river past Morigi, one must avoid innumerable mudbanks in the least expected places. On the west, the low forests still retain their flat appearance, but now to

the north-east this sameness is relieved by a few low hills standing out amidst the forests surrounding the middle reaches of the Paibuna. Reaching Turibomu Island, the Umaidai long houses stand out, and these are built on firmer ground. From now on, if it is near full or new moon, one watches the tide, and as soon as the ebb is near its slack, a native makes haste to get his canoe ashore. Shortly before slack water the far-off sound as of many express trains is heard in the distance, and as the current slackens the roar of the oncoming "bore" becomes ever more loud. Soon the white crest of the breakers is seen sweeping over the shallows, while in the deeper parts the bore appears as a series of waves rushing up over the ebbing waters of the river. If the moon is full, and a strong south-easterly is blowing in the Gulf, the height of these waves may be as much as five feet, or even more. Once when I was in the Bamu at the March equinox and the moon also happened to be full, it reached a height of 10 feet! A canoe caught in these turbulent waters would be overturned, and its occupants thrown out and drowned. On one or two occasions passing up river after a bore, I have found a body of a man who had been drowned in attempting to cross in a canoe while the bore was rushing upstream. No wonder we find mention of the bore in some of the Turama songs. In the death song, the *Betau*, they sing:

kabua iri doiyerera nege diororo.

This describes the salt water (*kabua*) rushing up on the bore waters and bubbling and boiling and churning the river near Bahi Junction.

The bore becomes spent as it travels northward and after passing Hawoi Bobo soon loses any height and force that remained.

The Darai Hills, which are so often mentioned in Kiwai folktales, can be seen dominating the landscape to the north-east of Turibomu Island at all seasons. The Kiwai in his tales placed them close to the Gama River. These hills are of weathered limestone formation, rising in their highest part to 600 feet. The eastern tributaries of the Turama, and the Paibuna River itself, all have their source in this limestone country. Not far from where the Wamuri rises in the Darai Hills is a pass leading to another range of limestone hills which in some places reach 900 feet above sea level, and in this range are several plateaux inhabited by tribes of the Kasere language group. The nearer Darai Hills block out these back ranges from the Turama. The former are also extremely weathered, and innumerable crevasses have been cut into them so that they are uninhabited, and in the past were never visited by the Turamarubi. To them, the hills were awesome and peopled with strange beings.

North of Turibomu the land seems to be much firmer in parts, but this is deceptive as the banks form a natural levee, behind which extensive forests of sago abound. As a matter of fact, these levees are found from the very mouth of the river, but lower down they are not so wide. The mangrove country along the river banks has now given way to dense tropical scrub, except on the more recent mudbanks, where a fresh—or brackish—water mangrove makes its appearance. In these dense forests wild pig, cassowaries, cuscus and other denizens of tropical swamplands provide the local natives' meat. Pythons are found in the larger trees, sleeping or lying in wait for prey. Pigeons and parrots of many species build in the branches, while along the river banks nests of the hawk and the sea-eagle can be distinguished high up among the forks of tall trees.

With the disappearance of the mangrove, the monotonous green has been left behind and in its place a hundred different hues of green show the innumerable varieties of the forest

trees. These greens are even more obvious at certain times of the year, when particular trees and creepers are in flower, and vivid patches of scarlet, gold or purple are conspicuous amid the duller colours. In May and November the D'Albertis creeper festoons the great trees and trails down to the water's edge with its scarlet clusters. Elsewhere, a parasitic umbelliferous tree, with its crown of blood-red florets, rises up in colour above its drab supporter. This parasite has a sacred significance to the Turama native, and it is known to them as *ari:ya*.

(iii) *Neighbouring Tribes.*

Surrounding the Turamarubi are a number of tribes speaking distinct dialects, and these dialects are not connected with the Kiwai root language, which is spoken by the Turamarubi, except the Baru tribe who live south of Gibu Creek to Baru Bari (Baru Point) and westward along the Gama River, which river was in olden times known as the Wiboda. I might mention here that the word *gama* is a Kiwai root word meaning "drum."

These Baru people, although they speak a dialect of Kiwai, have never been included in the term "Turamarubi." As a matter of fact, although the Baru own all the land mentioned above, and even in days long ago inhabited Neabo Island, they consider themselves as closely related to the Bina tribes of the Bamu estuary, and for the greater part of the year live along the eastern bank of the Gama River. In my early days at Daru (1919) there used to be a passageway from the Bamu to the Gama near Buniki village, but to-day this passageway is closed with wild lily and mangrove swamps. However, I found it was still possible to get canoes from one river to the other by dint of propelling the canoes by hand over the higher parts, which made a rough skidway.

The Baru people, though very close neighbours of the Turamarubi, will have to spend most of their time on the Gama, as there is far more sago available nearer to the Gama than to the Turama.

The most outstanding difference in custom between the Baru and Turamarubi is that of the initiation ceremony (*buguru*). In the former we have definitely a *maure buguru* called in Kiwai *maure muguru*.² This will be discussed later on in connection with the *buguru* ceremony of the Turamarubi.

A legend of origin of the Baru people has been included in Part 5, Legends, Section xvii, "Legends of neighbouring tribes."

The Baru people may be termed estuarians to distinguish them from the river people of the Turama, the Turamarubi; but the people living on Morigi Island could be placed in this category as they live below Turama Point, the beginning of the estuary according to the Turamarubi. The main difference between the estuarians and the river people is that the land of the river people is firmer than that of the estuarians, whose villages are almost awash at spring tides. Again the estuarians do not have to contend with the "bores" (tidal waves), although they do have very rough and heavy seas along the mouth of the river. Mudbanks in the estuary are not as numerous as further up the river, and so the southern people have developed slightly different customs in connection with their fishing. But here again it is only local, as around their permanent homes on the Gama many mudbanks are accessible. Still, for all this the geographical environments of the two peoples have no doubt been responsible for the development of differences in certain customs.

² See Landtman, G., *The Kiwai Papuans of British New Guinea*, p. 350. London, 1927.

West of the Gama is the great estuary of the Bamu, and the peoples living along this estuary from the junction of the Wawoi and Bamu (*Aworra*) rivers to the mouth may be divided into five main groups: (i) Sisieme, Kowavisi, Oropai, Sogeri and Mirua; (ii) Bina, Torobina, Buniki, Upati, Daravi, Aniadaï and Pirupiru; (iii) Wabuda, Maipani, Tirere, Sagero, Gowaburo, Purutu, Wapi (the last four tribes living in the entrance to the Fly River estuary); (iv) Kuria; (v) Bamio. The Gagora living right at the junction of the Bamu-Wawoi are like the other five groups alleged to have come from the country of Bosavi (Mt. Leonard Murray), but the former have a great admixture of bush tribes living in the vicinity of the junction, and their customs are more mixed than that of the five main groups.

These Bamu groups speak a dialect of the Kiwai language of the Fly River estuary, and also have a similar initiation ceremony (*maure buguru*). They will be further discussed under Part 5, xvii, "Legends of neighbouring tribes."

North of Gagora village on the Bamu (shown on most maps as the Aworra) are two villages, Matakaia and Iakani, and inland to the south-east near the Gama live the Kopirami. These three are also alleged to have come originally from Bosavi, but to my mind they are more closely allied to bush tribes between the Wawoi and the Turama and to those other bush tribes living south of the Wawoi as far as the Aramia river.

These latter bush tribes form one dialect group, and are referred to by the Bamu as *Wewe*. This seems to be a corruption of the word *Wawoi*. The Gagora, however, call them *Tamakiai*, while they themselves use the name *Tama:i*.

This *Tama:i* group of people speak one language according to themselves, but it has been found that among the various tribes there are many dialect changes, and even many words are distinct. I feel inclined to place the *Tama:i* as those tribes living between the Wawoi and Aramia Rivers as far west as the 143° 50' E. long.; while those living west of that belong to another group of which the Baineipi form part. The people living between the Wawoi and the Bamu and thence across to the Turama above Gagora Junction seem to belong to the *Tama:i*. For the purposes of this article we need refer only to those people between the Wawoi and the Turama, and these consist of the following sections: Dausami, Bibisa, Apurai, Sipoi, Warihu, Diwami, Sauvi, Tekumuyo, Yedi, Sauwami, Diwoiyo, Aumo, Masiki and some others, but the main names of the tribes between Wawoi and the Bamu are the Dausami, Apurai, Sipoi, Sauwami and Sauvi; while between the Bamu and the Turama are to be found the Bibisa, Masiki and Warihu. However, when a raid is to be made on the Turamarubi both sides of the Bamu join forces. This happened during my period in the district.

The *Tama:i* build long houses on hills on each side of which are sago swamps. When the sago is cut out, the village is moved to another site. At the same time the people do not occupy their long houses all the time but have other villages on hilltops where the houses are flimsy family ones built on high posts. The people are food gatherers, though they have very small gardens in which may be seen a few plants of "New Guinea" spinach, taro, and some poor types of bush yams. For the most part, their diet consists of sago, fish, game and pig, various bush nuts, the "cabbage" of certain palms, and several varieties of bush fruits. A few coconuts are to be seen here and there in the bush, but along the Bamu this palm grows much better and the villages therefore are able to plant more. These people are head-hunters, but apparently not cannibals. Those bush tribes between the Bamu and the Turama called Sipoi often travel miles across the country and make villages comparatively close to the

Turama. The Turamarubi's name for all these bush tribes is *Hei*, but more often than not they are referred to merely as *oberi* (bushmen).

On the eastern side of the Turama there is another large group of bush tribes who call themselves *Kasere*, but who are known to the Turamarubi as *Kairi*, probably a corruption of *Kasere*.

The Kasere comprise the tribes of Kibeni, Gibidai and Kahomoi in the south, then the Avisonemi, then the Kauwomo, Sewomo and Dugeme. All the foregoing seem to form a group known as *Sasa'u*. East of these is a tribe called Iossa, while north are four others—the Wai'emi, the Iuruwomo, the Kobere and the Barakei. These five form another group known as Bariwomo. The *Sasu'u* and the Bariwomo both belong to the Kasere language group.

There are two or three villages inland from the eastern bank of the Turama just south of Hawoi Junction. These people are semi-nomadic, but when I was there they had villages at Wamuri, Tamitami and Gugua. The latter is most interesting as it comes into the Guri song of the Turamarubi. The last three mentioned villages are all Kasere.

On the western bank of the Omati estuary is a village called *Pai:iya*. The people here speak the Kerewo language, although they originally were part of the Iuruwomo. Many years ago they split from the parent tribe and migrated southward to the estuary. Most of the people can still speak the Bariwomo dialect, and many still visit their relatives in the north and even take part in some of the initiation and other ceremonies. Outwardly, to all intents and purposes, the *Pai:iya* are Kerewo.

The Kasere build long houses of the communal type on hills near sago swamps, and their gardens are larger than those of the *Tama:i*. They seem to grow large quantities of the local bush spinach and it is noticeable that yaws is not so prevalent among them. Little anthropological work has been done among them, but there should be a great and interesting field for a student.

These groups of Kasere-speaking people place their village of origin at Iwebi, between the Barakei villages of Kemerua and Kerokari. This old-time story will be told more fully in "Legends of Neighbouring Tribes," Part 5, Section xvii.

Another people cut off from their parent stock are the *Pepeha*. This tribe lives in one large communal house on a small creek called the Turama, which flows into the lower *Paibuna* River. Years ago, even in historical times, the *Pepeha* were a much larger tribe, but being a strange tribe surrounded by neighbours having little in common with them, wars gradually decimated them. To-day the *Pepeha* although they speak their original language, possess few customs of their own, and all their songs, except one that is now untranslatable, are of exotic origin from the Kerewo or Turama tribes. The *Pepeha* originally were of *Bibisa* stock, but many years ago they quarrelled with some of their *Bibisa* people and migrated across to the Turama and down to the *Paibuna*. At the time of the breakaway the parent village was apparently near the *Komiwu* creek. Through using some of the *Pepeha* people on my trips to *Bibisa* and *Dausami*, several friendships were formed, and it is even possible they may once again absorb some of the customs of their forefathers and this may stop the rot that has set in as their village is certainly not increasing in numbers.

To the east of the Omati is a large group of tribes in the delta of the *Kikori* River. They are known as the Kerewo and speak a dialect of the *Kiwai* root language. Still further east are the *Gopi* and the *Urama*, both of whom must have come originally from the *Fly* River.

I mention these tribes as one of their best known mythological heroes called *Iruwake* is alleged to have taught the Kasere their arts and crafts, but among the Kasere people *Iruwake* has not the sacred significance it has further east.

Among the Kerewo tribe is a village called Keme, near the entrance to the Paibuna. They have quite an interesting legend showing them to have come from Kiwai, and also connecting them with a clan in the Namau village of Vaimuru in the Purari delta many miles to the east. This legend will be given in Part 5, xvii.

The foregoing gives some idea of the numerous and very distinct tribes surrounding the Turamarubi, and most of them must have had some effect on the original culture of the Turamarubi in their contacts either by intermarriage or through commerce.

L. AUSTEN.

(To be continued)

PROCEEDINGS OF SOCIETIES.

SOUTH AUSTRALIA :

Annual Report of the Anthropological Society of South Australia, 1946. Summary of the report delivered at the annual meeting of the Society, 25th November, 1946.

On behalf of the Council of the Anthropological Society of South Australia, I have pleasure in presenting to members the Twenty-first Annual Report of the Society for the year ending 25th November, 1946.

During the year eight meetings of Council were held, the average attendance being nine.

Seven ordinary meetings were held, the average attendance being 21. This figure, which shows an improvement of five over last year, seems to indicate that the hope expressed in the last annual report that, with the return of peace, attendances will improve further, is being fulfilled.

Twelve papers and addresses were delivered at the ordinary meetings of the session. They are as follows :

March 25th.—Dr. T. D. Campbell, Mr. P. S. Hossfeld and Professor J. B. Cleland : " The Recent S.A. Museum Expedition to the South-East—more particularly concerning the Antiquity of Man." A joint account of the fourth S.A. Museum Expedition to the south-east of South Australia.

April 29th.—Mr. A. G. Edquist : " An Attempt to Establish the Location of Skipper's Painting ' Corroboree,' dated 1840."

Dr. Michael Schneider : " Aborigines of the Northern Territory."

Dr. E. Couper Black : " Stone Implements of the Darling River and Barrier Ranges, North of Albermarle Station, New South Wales."

May 27th.—Professor Sir Stanton Hicks : " Food Patterns and Their Anthropological Significance."

June 24th.—Mr. C. P. Mountford : " Impressions of an American Journey."

July 22nd.—Wing-Commander N. B. Tindale : " Anthropological Wanderings."

August 21st-28th.—A.N.Z.A.A.S. Congress. Members played an active part in Section F, Anthropology, and by arranging expeditions and presenting papers were largely responsible for the success of the Section.

September 23rd.—Museum Evening. Short Addresses :

Dr. T. D. Campbell : " Stone Implement Collection from Yorke Peninsula."

Professor A. A. Abbie : " Comparative Orientation of the Skull."

Mr. N. B. Tindale : " Anthropology Overseas."

October 28th.—Professor L. A. Mander, of the University of Washington, U.S.A. :
" Recent Development in Maori Policy in New Zealand."

November 25th.—Annual Meeting. Presidential Address by the retired President,
Professor J. B. Cleland : " The Use of Tobacco and Similar Drugs, from an
Anthropological Standpoint."

Five new members were elected during the year : Mr. R. Sutton, Joslin, South Australia ;
Mr. F. R. Vyse, Norwood, South Australia ; Rev. S. T. Harper, Ardrossan, South Australia ;
Dr. Michael Schneider, Adelaide, South Australia ; and the Rev. Donald Daish, Adelaide,
South Australia.

The resignations of Miss Alison Harvey and Captain Frank Fenner were both accepted
with regret. Council places on record the invaluable work done by Miss Harvey during her
seven years of membership, and she will be missed greatly from our gatherings. Members
all express the hope that she will be very happy in her married life, and extend their con-
gratulations to Mr. Norman Brookman in winning for himself one whom we also greatly
admire.

Captain Fenner has been a member for eleven years. In that time he has participated in
expeditions to central Australia on behalf of the Board of Anthropology. His papers include
valuable contributions on the craniology of the Australian native and the Aitipie skull.

In March of this year the Society was pleased to confer honorary membership on the
Right Reverend J. R. B. Love, M.C., D.C.M., M.A., in recognition of the high quality of his
work in the mission field, his outstanding service to the Aborigines, and his Australian
linguistic studies.

Council is also pleased to record the safe return from the Services of Wing-Commander
N. B. Tindale.

Mr. C. P. Mountford, who for some months has been on a lecture tour of America on
behalf of the Department of Information, has also returned. He expects to lead a scientific
expedition to Arnhem Land in 1947.

There are now two honorary members, three life members, 50 members and 13 honorary
correspondents and one in the Services. Total, 77.

The Society tenders its thanks to the University of Adelaide for the use of the Anatomy
Lecture Theatre, and the Board of the S.A. Museum for the use of the Anthropological Depart-
ment throughout the year.

In the beginning of the year the control of the Australian Anthropological Association
of Australia was transferred from the Anthropological Society of Victoria to the
Anthropological Society of South Australia for the ensuing two years. The honorary secretary
for the term is Mr. J. C. Leask.

NEW SOUTH WALES :

*Annual Report of the Anthropological Society of New South Wales, 1947. Summary of the
report delivered at the annual meeting of the Society, 4th November, 1947.*

The Council has pleasure in submitting to members the nineteenth annual report for the
year ended 30th September, 1947.

Total membership increased during the year to 135 and now comprises two life members, seven honorary life members, and 126 ordinary members.

The following new members were elected : Mr. A. O. Neville, W.A. ; Mrs. E. Klussendorf, Petersham ; Miss M. B. Swords, Waverton ; Mrs. B. Trebitsch, Vaucluse ; Mrs. N. B. Holt, East Sydney ; Dr. J. Maclean, Trangie ; Rev. J. C. W. Stretch, West Maitland ; Mr. F. W. Breakwell, Carlton ; Mr. J. M. Clift, Miles, Queensland ; Mr. J. H. Calaby, Canberra ; Mr. G. E. Bunyan, Emu Plains ; Father Ferdinand Parer, Aitape, N.G. ; Mr. W. R. Richards, S.C.E.G.S. ; Dr. D. S. Davidson, Florida, U.S.A. ; Rev. C. Oliver, Sydney ; Miss E. Fenn Lusher, Wagga ; Mr. R. D. Hassell, Milton ; Dr. G. A. Williams, Lithgow ; Mr. G. H. Gibson, Kavieng, N.G. ; and Mr. Alport Barker, Suva.

Seven general meetings were held during the year, at which the following addresses were given :

1946—

October 23rd.—At History House. A paper by Mr. Roger Duff, M.A., "The Evolution of Native New Zealand Culture—Moa Hunters, Morioris and Maoris."

December 4th.—At the Department of Anthropology, University of Sydney. Annual General Meeting. An illustrated lecture on a survey of New Guinea, Arnhem Land and Central Australia, by Professor A. P. Elkin, M.A., Ph.D.

1947—

February 18th.—At the Australian Museum. Exhibition of talking coloured films on the Pitjandjara natives of the Western Desert by C. P. Mountford, through the courtesy of the Australian Museum.

April 10th.—At the Department of Anthropology. "The Peoples of the Western Division, Papua," by Dr. A. Capell, M.A., Ph.D.

June 26th.—Public lecture at the Australian Museum, "Antiquity of Man in Australia," by Mr. F. D. McCarthy, Dip.Anthr.

August 12th.—At the Department of Anthropology, University of Sydney. "Sorcery and Divination in Tanga," by Mr. F. L. S. Bell, M.A.

September 29th.—Through the courtesy of the Sociology Institute, at the University Law School. "Intelligence and Educational Status of Half-Caste Aboriginal Children," by Mr. Morgan S. Brown, M.A., Dip.Ed.

There were seven Council meetings held during the year.

Two numbers of the Society's journal, MANKIND, were published, Vol. 3, No. 10, in February, and Vol. 3, No. 11, in June. Circulation figures continue to increase, and there is also an ever-growing demand for sets of back numbers from institutions and individuals in Australia, Europe and America. Six such complete sets have been sold this year. The Journal is now the chief instrument through which the Society achieves its main objective, namely the dissemination of knowledge of the native peoples of Australia and the Pacific, and it is Council's constant regret that lack of funds prevents the publication of many more interesting and valuable papers on the peoples of these areas.

A further application for a grant-in-aid of MANKIND was made to the Minister for Education. It was presented personally by the Hon. E. G. Wright, M.L.C., but although the Minister recommended to the Premier that a grant be made it was again refused.

Much consideration was given to the desirability of having all Aboriginal relics in New South Wales protected and preserved by law. A special sub-committee was appointed to

outline a proposed draft of such legislation to be submitted for consideration to the Premier's Department. The draft has been completed, and it is to be presented to the Premier by a representative deputation from the Society.

At the meeting of the Australian and New Zealand Association for the Advancement of Science held in Perth in August, the Society was represented by Mr. G. P. Whitley and Mr. A. O. Neville. Mr. E. J. Bryce, a member of Council, has been abroad this year and attended the meeting of the British Association held in Dundee in August.

Council extended to members of the Sydney University Anthropological Society an invitation to attend lectures and excursions arranged by the Society.

The Royal Society of N.S.W. issued an invitation to the Society to submit the name and publications of its nominee for consideration of the award of the Walter Burfitt Prize for pure and applied science. Council nominated Mr. F. D. McCarthy, the Honorary Treasurer, and his publications on the archaeology of Australia.

The special committee formed to record rock engravings and other forms of Aboriginal art in the Sydney district has completed more very valuable work over a wide area, and it is in this respect that Council regrets most the lack of money which prevents the publication of the majority of these records.

The credit balance of the Society as at September 30th, 1947, was £67 17s. od. Council records its thanks to Mr. Mark Foy for a gift of £5 to the Publication Fund.

Council also wishes to thank the Department of Anthropology, University of Sydney, for many courtesies rendered during the year.

In review, Council provided a wide and varied programme of lectures through the year, and although the attendance at some of the meetings was encouraging to both the lecturer and Council, it is still concerned over the lack of sustained interest in the lecture programme. General meetings provide members with the opportunity to hear addresses by experts in their field and to meet one another and discuss problems of mutual interest. It is to this end that members are urged to show a livelier interest in the programme arranged for them in the coming year.

VICTORIA :

Annual Report of the Anthropological Society of Victoria, 1947. Summary of the report delivered at the annual meeting of the Society, 6th August, 1947.

The Committee has pleasure in submitting to members the thirteenth annual report, covering activities for the year ended 30th June, 1947.

Membership.

The membership of the Society now stands at eighty, which is a decrease on the number quoted in the last annual report. Seven new members were enrolled during the year. The decrease in numbers is to be regretted, and it is hoped that the leeway will be made up during the current year.

Finances.

The finances and assets of the Society remain in a satisfactory state. During the year the annual subscription was raised from 5s. to 10s. The increase in receipts, however, has been largely offset by the increased activities and liabilities of the Society.

"Mankind."

Two issues of the journal MANKIND were published during the year. Members are again reminded that this is their journal, and that the Editor welcomes contributions of a suitable nature for publication.

Meetings.

During the year the following meetings were held :

July 3rd, 1946.—54th Ordinary Meeting. An illustrated lecture entitled "The Native Races of the Netherlands Indies" was given by Mr. A. Schuurman, of the Netherlands Indies Government Information Service.

August 14th, 1946.—12th Annual Meeting, at which reports were submitted and officers elected for the ensuing year. At the conclusion of the business, the Rev. David Rettick delivered a most interesting lecture on the Aboriginal rock carvings around Sydney, N.S.W.

November 6th, 1946.—55th Ordinary Meeting. At this meeting four films, kindly loaned by the N.E.I. Government, were screened, the titles being: "Indonesian Harmony," "Peoples of the Indies," "Java To-day," "Netherlands America."

November 27th, 1946.—56th Ordinary Meeting. Mrs. Caroline Kelly, of the Department of Anthropology, Sydney University, delivered an inspiring address entitled "The Future of the Australian Aborigines."

February 18th, 1947.—57th Ordinary Meeting. At this meeting the Society was honoured by the presence of Dr. Carl van Hoffman, of the Brooklyn Museum, who delivered a most interesting lecture on the "Bantu Tribes of Africa." Dr. van Hoffman illustrated the lecture by screening his film entitled "Jungle Gods."

April 9th, 1947.—58th Ordinary Meeting. Two papers by Mr. R. A. Vivian, dealing with the study of the Australian native language, were read by the Rev. D. Rettick and Miss V. A. Lespro.

Excursions.

In conjunction with the Field Naturalists' Club of Victoria, the Society participated in an excursion to Mt. William Aboriginal Quarry. A most enjoyable day was spent by participating members.

Committee Meetings.

Five committee meetings were held during the year, and despite transport difficulties, the attendance of committeemen was most satisfactory.

Library.

This year marked the inauguration of the Society's library. Many members gave their wholehearted support to the secretary's appeal for suitable publications, and many books, pamphlets and periodicals have been donated. In this regard it is desired to place on record our indebtedness to the following members and others: Miss U. Teague, Mr. S. R. Mitchell, Mr. H. Balfour, Mr. C. S. Walker, Mr. R. H. Croll, Mr. Tindale, of the S.A. Society, and the Netherlands Government Information Bureau.

Many offers to lend negatives for the purpose of making prints have also been received, and it is expected that the Society's collection of ethnological prints will be greatly enlarged during the current year.

Obituary.

During the year the Society suffered the loss of two greatly esteemed members, namely the Rt. Rev. J. R. B. Love, M.C., D.C.M., M.A., who had been elected an hon. member only a short time prior to his death, and the Rev. Geo. Cox, who was a life member of the Society.

Activities.

By a unanimous decision of the Committee, Mr. F. D. McCarthy, Anthropologist, Australian Museum, was again nominated by the Society for the Natural History Medallion.

The Committee devoted much time to the question of the rocket projectile tests in Central Australia, and the views of the Society were submitted to the Prime Ministers of the United Kingdom and Australia. It is now believed that the project has advanced so far that further protests by our Society would be futile.

During the year affiliated Anthropological Societies were circularized with a view to ascertaining their views on the most advantageous method in carrying out the terms of the late Mrs. McDowell with regard to her bequest for the betterment of the Australian Aborigine. As opinions differed greatly, it was decided to withhold action in the matter temporarily. The fund, including accrued interest, now amounts to £636 3s. 2d.

Acknowledgement.

The Committee again tenders its thanks to Mr. Howitt, who kindly made his office available for committee meetings, and to the Trustees of the Public Library, who made similar facilities available when lighting restrictions prevented the Committee using Mr. Howitt's office.

The Society is greatly indebted to our hon. secretary for the fine service he has given to us during his term of office. To him our thanks are due for arranging the very fine syllabus we have had during the past year, for providing the lantern and projector for these talks, and the work he has freely given in collecting the books for the nucleus of our library as well as for housing them *pro tem*. He is also responsible for the arrangement and collection of material for our photographic library in addition to his efficient duties as secretary.

CORRESPONDENCE, NOTES AND NEWS :

News from Aitape.

Sir,

I wish to thank you for your cordial invitation to join the Anthropological Society of New South Wales. I only reached the Aitape district for the first time on the 12th May this year. However, I have already seen a great deal of the country, for which I

am thankful. I saw Wogeo, where Dr. Ian Hogbin laboured so successfully, and I also had the good fortune to spend some time on the island of Kairiru, where I am told the Japanese established a fish canning factory and a recreational resort, thereby completely upsetting the ordered life of the natives.

It was in the mountain area, two days' walk from the government station of Ulamba that I have had my most interesting and enjoyable experiences up to date. There, the natives are adhering with greater fidelity to the old traditional customs than their coastal brethren. The language spoken has been called Ahneum, after a small village of that name. It has been estimated that this Papuan tongue is spoken by about 4,000 people. In counting, their highest unit is two. So the numbers go one; two; two and one; two and two; two and two and one; two and two and two; and so on. Though it is the same language that is spoken, variations in different words are to be found in villages no more than two miles apart.

F. PARER, C.F.M.

Joint South Australian-Victorian Expedition to the Lower South-Eastern Region, South Australia.

Sir,

During February of this year, an event of importance took place in the form of an expedition by a group of combined interstate workers. The trip was organized from Adelaide, and a party from that city met a group from Melbourne at Millicent, in the lower south-east of South Australia. The team consisted of Professor J. B. Cleland and Dr. T. D. Campbell, of the Adelaide University, and Mr. N. B. Tindale and Miss Gwen Walsh, of the South Australian Museum staff, while from Melbourne were Mr. R. Keeble, of the National Museum, and Messrs. S. R. Mitchell and D. Casey, who are also associated with that institution. Mr. Casey was accompanied by his wife.

This team, with its strong interstate flavour, carried out a week of busy activities in the Millicent district, and the Victorian

visitors heartily agreed with their South Australian friends that this lower south-eastern area is almost unique in its opportunities for geological and physiographic study in relation to anthropological problems. The daytime was spent in examining a variety of features embracing the ocean shore, lakes, littoral dunes, the celebrated series of stranded consolidated inland dune ridges with their intervening swales and flats, Aboriginal camp sites and implements, rocks, soils, sands, vegetation and water supply—all in an almost inexhaustible scope for study. The evenings were spent in discussion over maps, charts, sections and specimens, and the Victorian group was fascinated by the use that has been made for several years by South Australian workers of a large series of aerial photographs in the work covering this district.

The occasion was voted by all to be a tremendous success, and it is hoped that it will be but a forerunner of similar expeditions on which a variety of mutual interests can be brought together in the field to study and discuss their observations *in situ*. The incentive given by such teamwork for study in the wider problems where the sciences of geology, palæontology, physiography, archæology and Aboriginal ecology find a common meeting ground can be properly appreciated only when experienced. For many years this south-eastern terrain has attracted workers in archæology from both Adelaide and Melbourne. During recent years the South Australians have combined as a team to carry out intensive study together in the field, but this latest trip is surely a *par excellence* example of a "Science Congress" meeting of its Anthropological Section.

T. D. CAMPBELL.